HS1172

UF UNIVERSITY of FLORIDA
IFAS Extension

Florida Pusley Biology and Control in Fruiting Vegetables, Cucurbits, and Small Fruits[1]

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Florida pusley is found in most habitats in Florida, including cultivated fields, pastures, lawns, ditch banks, and waste areas. It is a drought-resistant annual with hairy leaves and stems. Common in the row middles and the edges of vegetable and strawberry production fields, it also thrives in the organic mulch production system used with highbush blueberries.

Classification

Common name: Florida pusley

Scientific name: *Richardia scabra* L.

Family: Rubiaceae

Seedling Identification

Cotyledons are spoon shaped, green, thick, and smooth. The first leaves can be hairless or nearly so and emerge opposite of one another.

Mature Plant

The plant is mostly erect but can be found prostrate in areas of high traffic, such as in row and drive middles. It is usually found to be less than 2 ft tall in row middles but can exceed 3 ft in planting holes and around irrigated areas. Leaves are opposite, 1–3 in. long, and very hairy with noticeable veins. The leaf edges are smooth and rarely wavy. It has a fibrous taproot that can be very deep in the soil. The flowers are small and white with six petals and are found at the terminus of the stems (Bryson and DeFelice 2009).

Figure 1. Florida pusley growing in the row middles of a squash field.

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Management Considerations

Florida pusley is found in the majority of production fields in Florida, both in the row middles and at the field edges. It does not commonly escape fumigation treatments; thus, emergence from planting holes in the polyethylene mulch is rare. It is very difficult to control Florida pusley after it has emerged. Therefore, any management plan should aim to limit seed production with the use of preemergent herbicides in the growing season and cultivation in the fallow season. This weed produces seed midway through the season and should be removed from the field after the final crop harvest using herbicides or cultivation. If left to reproduce after the removal of the polyethylene mulch, it will replenish the seed bank and become a problem in the field for years to come.

Figure 2. Florida pusley emerging around the edges of a strawberry field.

Chemical Control – Preemergence

Tomato and Pepper – Applying oxyfluorfen (Goal 2XL® or Goaltender®), napropamide (Devrinol® 50DF or 2E), or S-metolachlor (Dual Magnum®) under the polyethylene plastic mulch provides good control of Florida pusley. When control is desired in the row middles, flumioxazin (Chateau® SW) provides excellent control. Pendimethalin (Prowl® H_2O), S-metolachlor, or, in the case of tomato only, metribuzin (Sencor®) provide good control of Florida pusley when used in the row middles. All row middle applications require rain or overhead irrigation to activate the herbicide.

Cucurbits – On bare-ground plantings and in row middles, the combination of ethalfluralin (Curbit®) and clomazone (Strategy®) provides excellent control of Florida pusley. For watermelon, cantaloupe, and cucumber, halosulfuron (Sandea®) provides fair control when used in the row middles or under polyethylene mulch.

Strawberry – Oxyfluorfen provides excellent control when used under polyethylene mulch. Napropamide is labeled for use under plastic mulch, while pendimethalin is labeled for use in row middles. Both products provide good control of Florida pusley. Flumioxazin provides excellent control of Florida pusley and is registered for use in the row middles.

Blueberry – Oryzalin (Surflan®) provides good control of Florida pusley, while flumioxazin provides excellent control.

Chemical Control – Postemergence

There are no over-the-top or directed products for control of Florida pusley in pepper, cucurbits, and strawberry.

Tomato and Pepper – For tomato, a post-directed application (directed to the base of the tomato plants) of metribuzin or rimsulfuron (Matrix®) provides good control of Florida pusley. In the row middles, paraquat (Gramoxone Inteon®) or carfentrazone (Aim® EC or EW), and, for tomato only, metribuzin or rimsulfuron can be applied but only provide good control of small seedlings; larger plants will regrow.

Cucurbits – In the row middles, paraquat or carfentrazone can be applied but only provide good control of small seedlings; larger plants will regrow.

Strawberry – In the row middles, paraquat or carfentrazone can be applied but only provide good control of small seedlings; larger plants will regrow. Glyphosate (Roundup®-type products) can be used in the row middles to provide excellent control of small Florida pusley but often benefit from the addition of carfentrazone, especially when the pusley is larger in size.

Blueberry – In the row middles or directed at the base of plants (no contact with green foliage or bark), paraquat or carfentrazone can be applied but only provide good control of small seedlings; larger plants will regrow. Glyphosate can be used with the same precautions as the previously mentioned products to provide excellent control of small Florida pusley but often benefit from the addition of carfentrazone, especially when the pusley is larger in size. Flumioxazin provides fair to good control of Florida pusley and aids glyphosate in control of larger plants.

Conclusion

Because Florida pusley is commonly found in most production fields, preventing seed production is the key management strategy. This weed emerges year round, and this steady emergence can be used to lower the populations in the fallow season between crops. Use preemergent products during the growing season, as any escapes can be difficult to control. If a postemergent application is necessary, make the application when the Florida pusley is actively growing to maximize control.

Literature Cited

Bryson, C. T., and M. S. DeFelice, eds. 2009. *Weeds of the South.* Athens: University of Georgia Press.